Tuesday August 22nd, 2023: Salon C

Passive Thermal Presentation Session #5

08:00 to 08:30: Passive thermal control of spacecraft utilizing temperature dependent magnetic forces

08:30 to 09:00: Propylene Loop Heat Pipe Design and Thermal Performance

09:00 to 09:30: Integration of a Sodium Heat Pipe and Stirling Engine for Fission Surface Power

09:30 to 10:00: Frequency response measurements of an oscillating heat pipe using strain gauges

Passive Thermal Presentation Session #6

10:15 to 10:45: Thermal Vacuum Testing of a Miniature Propylene Loop Heat Pipe

10:45 to 11:15: Moon Rover Thermal and Power Analysis for Night and PSR Survival

11:15 to 11:45: Additively Manufactured Ceramics for High-Temperature Heat Rejection in Nuclear Electric Propulsion Systems

11:45 to 12:15: Autonomous Melting Probe for Icy Worlds Exploration

Passive Thermal Presentation Session #7

13:30 to 14:00: Radiative heat transfer capability implemented in OpenNCC for conjugate heat transfer applications

14:00 to 14:30: Two-Phase Thermal Switch for Lunar Rover Thermal Management and Lunar Night Survival

14:30 to 15:00: Rigorous Freeze/Thaw Qualification Testing for Copper/Water Heat Pipes in Space Applications

15:00 to 15:30: Low-alpha, variable emissivity radiator (LAVER) panels for passive thermal regulation of spacecraft

Passive Thermal Presentation Session #8

15:45 to 16:15: Star-shaped, Titanium-water Vapor Chamber for Temperature Management of the Carbon Dioxide Removal Assembly

16:15 to 16:45: Thermal balance testing and mathematical model validation of Juventas Cubesat STIM

16:45 to 17:15: Thermal Analysis of Orbiting Sample for Sample Return Lander

Tuesday August 22nd, 2023: Salon D

Active Thermal Presentation Session #1

08:00 to 08:30: The Flow Boiling and Condensation Experiment (FBCE) Flight Testing and Capabilities

08:30 to 09:00: Flow Boiling and Condensation Experiment: Flow Boiling in a Rectangular Channel with Subcooled Inlet Conditions in Microgravity

09:00 to 09:30: ELECTRICALLY DRIVEN LIQUID FILM Flow BOILING: A TWO-PHASE HEAT TRANSPORT DEVICE DRIVEN BY ELECTRIC CONDUCTION MECHANISM

09:30 to 10:00: Numerical Study of effect of gravity on Pool Boiling Curve in a Temperature Controlled Mode

Active Thermal Presentation Session #2

10:15 to 10:45: Development of a Novel Direct-to-Chip Evaporator using Hollow Micropillars for Thermal Management in High Heat Flux Applications

10:45 to 11:15: Computational Study of 3-Phase Contact Line: Effect of Oscillations on Heat Transfer

11:15 to 11:45: Analysis of Dynamical System Behaviors of Loop Heat Pipes

11:45 to 12:15: Freeze-Thaw Tolerant Direct Condensation Radiator for Two-Phase Fluid Loops

Cryogenics Presentation Session #1

13:30 to 14:00: Emissivity of black coatings from ambient to cryogenic temperatures: How spectrally flat black coatings can enhance performance of space systems

14:00 to 14:30: Prediction of Cryogenic Propellant Tank Active Pressure Control by Jet Induced Mixing

14:30 to 15:00: A multi-fidelity modelling approach for cryogenic propellant management of VEGA-E upper stage

15:00 to 15:30: Review of Cryogenic Loop Heat Pipe Technology Development by NASA/GSFC for Space Applications

Cryogenics Presentation Session #2

15:45 to 16:15: Results and lessons from cryogenic phase change experiments with LH2 and LCH4

16:15 to 16:45: Thermal Analysis and Testing of a Conductively-Cooled High Temperature Superconducting Rotor for a 1.4 MW Electric Machine

16:45 to 17:15: Analytical evaluation of advanced Cryogenic Fluid Management (CFM) Technology Development Tool for NASA's Exploration Vision